

Section 1 MANAGEMENT OF CHANGE (MOC)

MOC No: 10855	Originator: Arora, Madan L.	Date Issued: 7/17/2002	Passport No: 26131933	EWO No:	ABU: South Isomax	Plant: H2 A TRAIN	Year: 2002
Section 2 Reviewer: Waldrop, Jason S.	MOC Category: Leak Seal	PSM:	MOC Type: Temporary	Expiration Date: 6/30/2016	Other Temporary Reason routine opportunity		
<u>Project/Equipment Title:</u> P-332A case gasket leak							
<u>Description of Change:</u> P-332A case gasket leak to be leak sealed by leak seal contractor. The new case is on order by IMI and will be replaced during next shutdown of the pump. To be complete as routine at next opportunity.							

MOC will be required if the change will:

- ☐ Cause the use of different feed, chemicals or catalysts?
☐ Cause the use of different process conditions, process control, instrumentation, and protective devices or affect upstream/downstream plants?
☒ Cause the use of new or modified equipment [which is other than inkind]?
☐ Alter equipment siting, building, trailer locations, roads or fire protection?
☐ Require modifying existing and/or developing new procedures?

☐ Simultaneously Begin Construction and Start-up

Section 2

Stage 1	Pre-Implementation	Dept./Person Responsible	Date Complete	Completed By	References
	Design Review	Valiquette, Tyler T.	7/17/2002	Valiquette, Tyler T.	
	Process Engineering Review	Nguyen, Hoa T.	7/17/2002	Nguyen, Hoa T.	
	Instrumentation Review				
	Control System Review				
	Utilities Review				
	Environmental/Regulatory Review	DiPalma, Thomas	7/25/2002	Aven, Diane C.	
	Safety/Regulatory Review	Williams, Philip L.	7/18/2002	Williams, Philip L.	
	Building Permits Review	Jensen, John D.	7/17/2002	Jensen, John D.	
	Mechanical Review				
	Inspection Review	Wells, Anthony	7/18/2002	Wells, Anthony	
	Metallurgy Review	Wisherop, Thomas F.	7/17/2002	Wisherop, Thomas F.	
	Contruction Review				
	Leak Seal Review	Valiquette, Tyler T.	7/17/2002	Valiquette, Tyler T.	
	Relief System Review				
	Infrastructure Review				
	PHA/HSE Review	Valiquette, Tyler T.	6/14/2004	Parrish, Keith M.	

Authorization to Implement Change (Begin Construction): Approver: Wildman, Stephen D. Date: 7/26/2002

Stage 2	Pre-Startup	Dept./Person Responsible	Date Complete	Completed By	References
	Procedures Review				
	Communication/Training 1	Parrish, Keith M.	7/25/2002	Parrish, Keith M.	
	Pre Start-up Safety Review	Arora, Madan	7/25/2002	Parrish, Keith M.	

Authorization to Start-Up Change: Approver: Wildman, Stephen D. Date: 7/26/2002

Extension of Temporary Change Approved By:	Approver: Waldrop, Jason S.	Expiration Date: 6/30/2016	Extention Reason will be repaired at nex pump r
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Stage 3	Post-Startup	Dept./Person Responsible	Date Complete	Completed By	References
	Communication/Training 1				
	Process Safety Information				

Change in Place - Reviews, Documentation & Testing Complete	Approver:	Date:
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MOC Cancelled:	Approver:	Date:
	Cancellation Reason:	

Note 1: Emergency request for change should be routed by the Approver on the next working day	Retain Original in Division for five Years
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DESIGNS REVIEW CHECKLIST

You have been assigned a Design Engineering Review. This checklist is a guide to help ensure that all information necessary to evaluate the change is considered.

MOC Number	10855
Filing Reference	
Person Responsible	Valiquette, Tyler T.
Completed by	Valiquette, Tyler T.
Date Completed	7/17/2002

Project/Equipment Description:

P-332A case gasket leak to be leak sealed by leak seal contractor. The new case is on order by IMI and will be replaced during next shutdown of the pump. To be complete as routine at next oppportunity.

*When possible include copies of documents referenced in the summary.

DESIGNS REVIEW CHECKLIST

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MOC Number 10855

Filing Reference

Person Responsible Valiquette, Tyler T.

Completed by Valiquette, Tyler T.

Date Completed 7/17/2002

Project/Equipment Description:

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ENGINEERING REVIEW

- ☐ BIN Best Practic
- ☐ Civil & Structural
- ☐ Equipment Data Sheet
- ☐ Equipment Specification
- ☐ Fire Protection
- ☐ Hot Tap
- ☐ P&ID's Change due to New / Modified equipment
- ☐ P&ID's Change - Field condition not matching existing P&ID
- ☐ Plot Plan
- ☐ Seismic
- ☐ SIS Update
- ☐ Temporary Leak Repair

EQUIPMENT REVIEW

- | | |
|--|--|
| <input type="checkbox"/> Columns & Pressure Vessels | <input type="checkbox"/> Instrumentation |
| <input type="checkbox"/> Compressor, Blowers & Mechanical Equipment | <input type="checkbox"/> Insulation |
| <input type="checkbox"/> Concrete & Steel Structure, Walks and Stair | <input type="checkbox"/> Noise |
| <input type="checkbox"/> Control Rooms & Building | <input type="checkbox"/> Piping |
| <input type="checkbox"/> Exchangers, Condensers, Heaters & Cooling Tower | <input type="checkbox"/> Pumps & Drivers |
| <input type="checkbox"/> Facilities & Siting | <input type="checkbox"/> Relief & Venting Systems |
| <input type="checkbox"/> Foundation | <input type="checkbox"/> Sewers, Roads & Miscellaneous |
| <input type="checkbox"/> Furnaces & Boilers | <input type="checkbox"/> Tanks |
| <input type="checkbox"/> Honeywell | <input type="checkbox"/> Update Refinery Relief Study |
| <input type="checkbox"/> Honeywell Process Simulator | <input type="checkbox"/> Utility Systems |
| <input type="checkbox"/> HVAC | |

SUMMARY OF REVIEW*

Maintenance unsuccessfully attempted to stop the leak.

The spare pump is unable to be installed because it needs to be repaired (new case). IMI has ordered a new case.

I inspected the pump leak with leak seal contractor. The contractor will inject leak seal material through injection bolts after wire-wrapping the gap between the flanges.

Leak seal contractor must follow RI-9900 (log-out /tag-out) procedures before performing the leak seal.

*When possible include copies of documents referenced in the summary.

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Filing Reference	
Person Responsible	Valiquette, Tyler T.
Completed by	Valiquette, Tyler T.
Date Completed	7/17/2002

Project/Equipment Description:

P-332A case gasket leak to be leak sealed by leak seal contractor. The new case is on order by IMI and will be replaced during next shutdown of the pump. To be complete as routine at next oppportunity.

PROCESS ENGINEERING REVIEW CHECKLIST

You have been assigned a Process Engineering Review.
This checklist is a guide to help ensure that all information
necessary to evaluate the change is considered.

MOC Number	10855
Filing Reference	
Person Responsible	Nguyen, Hoa T.
Completed By	Nguyen, Hoa T.
Date Completed	7/17/2002

Project/Equipment Title:

P-332A case gasket leak

DOCUMENTATION

- ☐ Drafting Work Requisition, MFG-5545
- ☐ Maximum Intended Inventory Update
- ☐ MSDS's
- ☐ PED Records
- ☐ Relief System Drawings

PROCESSES REVIEW

- | | |
|--|--|
| <input type="checkbox"/> ASTM-TBP-EFV Distillation Relationships | <input type="checkbox"/> Suppliers' Performance |
| <input type="checkbox"/> BIN Best Practice | <input type="checkbox"/> Surface Tensions |
| <input type="checkbox"/> Characterization of Petroleum Fractions | <input type="checkbox"/> Thermal Properties |
| <input type="checkbox"/> Composition & Flow Information | <input type="checkbox"/> Upstream & Downstream Impacts |
| <input type="checkbox"/> Conversion Factor & Constants | <input type="checkbox"/> Vapor-Liquid Equilibria |
| <input type="checkbox"/> Delivery Needs | <input type="checkbox"/> Vapor Pressures |
| <input type="checkbox"/> Densities | <input type="checkbox"/> Viscosities |
| <input type="checkbox"/> Fundamental Properties | |
| <input type="checkbox"/> Honeywell | |
| <input type="checkbox"/> Honeywell Process Simulator | |
| <input type="checkbox"/> Material & Energy Balance | |
| <input type="checkbox"/> New Catalyst of Feeds | |
| <input type="checkbox"/> Operating Parameters | |
| <input type="checkbox"/> Physical Properties of Streams or Catalysts | |
| <input type="checkbox"/> Solubilities | |

SUMMARY OF REVIEW*

P-322A is amine circulation pump. The process stream is 25 to 28% MEA and contents small amount of CO2. Contractor needs to select the right sealant that can stand amine service.

*When possible include copies of documents referenced in the summary.

ENVIRONMENTAL REGULATORY REVIEW CHECKLIST

You have been assigned a Regulatory Review. This checklist is a guide to help ensure that all information necessary to evaluate the change is considered.

MOC Number: 10855
Filing Reference:
Person Responsible: DiPalma, Thomas
Completed By: Aven, Diane C.
Date Completed: 7/25/2002

Project/Equipment Title:

P-332A case gasket leak

CHEVRON:

☐ Yellow Book

REGULATORY:

- ☐ Army Corp Permit
- ☐ BAAQMD Air Regulations & Permits (including TitleV)
- ☐ Bay Conservation & Development Commission (BCDC)
- ☐ CEQA (EIR's, etc.)
- ☐ City of Richmond Conditional Use Permits (Land use and Hazardous Materials)
- ☐ City of Richmond Design Review Board
- ☐ Permit to Build and Remove Wells, County Permit Required
- ☐ Department of Transportation (DOT)
- ☐ EPA Benzene Neshap
- ☐ EPA Benzene Waste (BW) NESHAP
- ☐ EPA MACT Requirements
- ☐ EPA New Source Performance Standards (NSPS)
- ☐ Regulation 8 Organic Compounds Rule 8 Wastewater Collection and Separation Systems
- ☐ Risk Management & Prevention Plan (RMPP)
- ☐ RWQCB Waste Discharge Orders, EPA Consent Agreement Sites
- ☐ RWQCB NPDES Regulations & Permits
- ☐ RWQCB SB-1050, Waste Discharge Requirements (WDR)
- ☐ Spill Prevention & Counter Measure Plan (SPCC)
- ☐ Waste Regulations and Permits
- ☐ Wharf-related agencies (SLC, USCG, OSPR, EPA)
- ☐ ☐ Additions, modifications, or deletions of VOC Component/Equip

SUMMARY OF REVIEW*

Fixing the leak had to be done on a priority basis, so the work has been completed. Sealing material was shot into the flange bolts. P-332A is in monoethanolamine service.

There are no environmental issues- Diane Aven, HES.

*When possible include copies of documents referenced in the summary.

SAFETY/ENVIRONMMENTAL REVIEW CHECKLIST

You have been assigned a Regulatory Review. This checklist is a guide to help ensure that all information necessary to evaluate the change is considered.

MOC Number	10855
Filing Reference	
Person Responsible	Williams, Philip L.
Completed By	Williams, Philip L.
Date Completed	7/18/2002

Project/Equipment Title:

P-332A case gasket leak

Yes No Health & Safety Regulatory Review:

- | | | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | Changes to Refinery Instructions |
| <input type="checkbox"/> | <input type="checkbox"/> | Cal OHSA Construction Activity Permits |
| <input type="checkbox"/> | <input type="checkbox"/> | Meets Legal and SID Requirements |
| <input type="checkbox"/> | <input type="checkbox"/> | Hazardous Materials Business Plan Changes |
| <input type="checkbox"/> | <input type="checkbox"/> | Special OSHA Notifications Required |
| <input type="checkbox"/> | <input type="checkbox"/> | Impacts RMP |
| <input type="checkbox"/> | <input type="checkbox"/> | Additional Record Keeping Requirements |

SUMMARY OF REVIEW*

OK, with the understanding that this will be replaced at the next S/D

*When possible include copies of documents referenced in the summary.

BUILDING PERMITS REVIEW CHECKLIST

You have been assigned a Regulatory Review. This checklist is a guide to help ensure that all information necessary to evaluate the change is considered.

Project/Equipment Title:

P-332A case gasket leak

MOC Number 10855

Filing Reference

Person Responsible Jensen, John D.

Completed By Jensen, John D.

Date Completed 7/17/2002

SUMMARY OF REVIEW*

No building permits required.

INSPECTION REVIEW CHECKLIST

You have been assigned a Inspection Review. This checklist is a guide to help ensure that all information necessary to evaluate the change is considered.

MOC Number 10855

Filing Reference

Person Responsible Wells, Anthony

Completed By Wells, Anthony

Date Completed 7/18/2002

Project/Equipment Description:

P-332A case gasket leak to be leak sealed by leak seal contractor. The new case is on order by IMI and will be replaced during next shutdown of the pump. To be complete as routine at next opportunity.

INSPECTION:

- ☐ Additional Surveillance Required
- ☐ API Standards
- ☐ ASME Codes & Standards
- ☐ ASTM Standards
- ☐ Control Monitoring Requirements
- ☐ Electrical Inspection
- ☐ Fitness for Service Evaluation
- ☐ Honeywell
- ☐ Honeywell Process Simulator
- ☐ Inspection/Monitoring Requirements
- ☐ Non-Destructive Examination
- ☐ Normal Control Requirements
- ☐ Positive Materials Identification
- ☐ Relief and Pressure Relief Devices Setting and Capacity
- ☐ Texas Nuclear (Metallurgy)
- ☐ UT Testing
- ☐ VOC Tagging Requirements

SUMMARY OF REVIEW*

Repair/replace at next opportunity.

METALLURGY REVIEW CHECKLIST

You have been assigned a Metallurgy Review. This checklist is a guide to help ensure that all information necessary to evaluate the change is considered.

MOC Number 10855
Filing Reference _____
Person Responsible Wisherop, Thomas F.
Completed by Wisherop, Thomas F.
Date Completed 7/17/2002

Project/Equipment Description:

P-332A case gasket leak to be leak sealed by leak seal contractor. The new case is on order by IMI and will be replaced during next shutdown of the pump. To be complete as routine at next opportunity.

Refinery Process Stream: Lean MEA

Service Description: MEA pump

Process: Amine/Type (i.e., DEA, MEA, MDEA,etc)

Other: _____

Operating Temperature: 160 F

Operating Pressure: 379 psia

Design Temperature: 200 F

Design Pressure: 600 psig max case working pressure

Product Form: Casting

Piping Classification: _____

Equipment Pump

Other: _____

New Material Type: Carbon Steel

Other: _____

Connection for Piping Specification: _____ ☐ Stress Relieved

Piping Specification Comment: _____

If Required, what is stress relieving temperature: _____ and Time _____

Exchanger Bundle (Check all Applicable)

☐ U-Bend Tube Bundle

☐ U-Bend Area Stress Relieved?

☐ Finned Tube Bundle

☐ Finned Area Stress Relieved?

☐ Straight Tube

☐ Tube Sheet and tubes made of different alloys?

Explain: _____

☐ Cladded Tube sheet. Which side is clad? _____

☐ Other _____

METALLURGY REVIEW CHECKLIST

You have been assigned a Metallurgy Review. This checklist is a guide to help ensure that all information necessary to evaluate the change is considered.

MOC Number	10855
Filing Reference	
Person Responsible	Wisherop, Thomas F.
Completed by	Wisherop, Thomas F.
Date Completed	7/17/2002

Project/Equipment Description:

P-332A case gasket leak to be leak sealed by leak seal contractor. The new case is on order by IMI and will be replaced during next shutdown of the pump. To be complete as routine at next opportunity.

Specification Change:

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Other: This is a mechnaical repair. No anticipated impact to metallurgy.

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HEALTH & SAFETY EVALUATION

Date Issued: 7/17/2002

ABU: South Isomax

Plant: H2 A TRAIN

Section 2 Reviewer: Waldrop, Jason S.

Project/Equipment Title: P-332A case gasket leak

Description: P-332A case gasket leak to be leak sealed by leak seal contractor. The new case is on order by IMI and will be replaced during next shutdown of the pump. To be complete as routine at next opportunity.

Maximo No: 26131933

EWO No:

MOC Number 10855

Filing Reference

Person Responsible Valiquette, Tyler T.

Completed By Parrish, Keith M.

Date Completed 6/14/2004

Step 1: ☐ Notify USW ☒ USW Representation Present USW Representative: Roger Conant

Worker's Committee Member/Steward's comments if unable to attend:

☐ Notify Trainer ☒ Trainer Representation Present Training Representative:

Step 2: Involve: Operations, Maintenance, Technical and others with appropriate expertise relevant to the change (CRTC, Contractors, etc)

Attendees: Roger Conant, Roger Muskat (Team Industrial Services), Madan Arora, Tyler Valiquette

Step 3: Think about the task at hand. Discuss the existing situation. Discuss the change. Discuss the impact of the change on the existing situation. Determine the training requirements for this change.

Step 4: Training Type: 1

Develop a list of concerns, consider your options, consider your following:

*H2S *NH3 *Acid *Caustic *Benzene *Fall Protection *Staging *Scott Air *PPE *Hot Work *Confined Space Entry *Evacuation Plan *Safety Operator

1. P-332A is in Amine service. Pump is shutdown and is being flushed with water for 3 weeks..and is under constant flush since them. Should be pretty clean.
 2. Electrical logout/tagout. Team Services representative to double check before start of work. Pump is racked out and isolated.. Team Services representative to verify before start of actual leak seal work.
 3. Proper PPE (goggles, rubber gloves and faceshield as minimum)
 4. Air impact gun is permitted.
- 14-Jun-04
No Issues for extension
02-Feb-10
No Issues for extension -

HSE Action Items

Additional Comments

Stage Two Training and Communication Review

10/5/2012 8:29:39 AM

☒ **Identify the affected employees.**

- * Maintenance and Technical affected?
- * Employee who will require training to start up the change based on the level of training.
- * Employees who will receive training after the start up BUT before they can perform work affected by the change

☐ Procedures have been modified/written (Ops/SSO/Trainer)

☒ **Identify the affected employees..**

- * Lesson plan cover sheet (includes training objective statement and list of affected employees)
- * Procedural changes (Standing Orders, mark-ups)
- * Flow diagrams (final or mark-ups)

☒ **Determine level of training**

☒ **Training has been scheduled**

☒ **Affected employees have been trained in order to start up the change.**

MOC No:

Date Completed:

Completed By:

Person Responsible:

Project/Equipment Title:

Summary of Review:

APPENDIX III

PRE-START-UP SAFETY REVIEW CHECKLIST

You have been assigned a Pre Start-Up Safety Review. This checklist is a guide to help ensure that all information necessary to evaluate the change is considered.

Passport No: 26131933
EWO No.:
MOC PSSR.: 10855.001

MOC Number 10855
Filing Reference
Person Responsible Arora, Madan
Completed By Parrish, Keith M.
Date Completed 7/25/2002

Project/Equipment Description:

P-332A case gasket leak

Subsystem:

NOT The PSSR facilitator shall involve employees with expertise in process operations, maintenance, and engineering, based upon their experience and understanding of the process system being evaluated.

The following requirements for PSSR shall be addressed:

1. Has the equipment and construction been completed in accordance with the critical design specifications?
Some examples of how this may be accomplished are:
 - * Review of equipment quality assurance and inspection records.
 - * Review of construction inspection records.
 - * P & ID "check" after mechanical completion, and facility "walk-through" inspection.

Justification:

2. Are Safety, operating, maintenance, and emergency procedures in place and adequate?
 - * The phrase "in place and adequate" means: written, reviewed, approved, and accessible to employees requiring the procedures in their work.
 - * This does not prevent the use of "mark-up" procedures to satisfy the requirement, but these must undergo the same review and approval and training interaction as would "the final version" of the same procedure and would require rigorous control.

Justification:

3. Has the communication or training of affected operating, maintenance, or contract workers been completed?
 - * Maintenance employees, contractors, and other employees whose work is affected by the change must be informed of the change and training in the impact on their job tasks before the changed equipment is started up.

Justification:

4. Have the quality assurance goals of mechanical integrity been met?
 - * Ensure that changes are suitable for the intended service.
 - * Ensure that the quality of the work is acceptable.
 - * Ensure that the quality of the Leak Seal is acceptable.

Justification:

5. Have all recommendations resulting from PHA's or HSE's been addressed or resolved?
 - * Ensure all Recommendations have been documented as addressed or resolved

Approved by:

Parrish, Keith M.

Date

7/25/2002

APPENDIX III
PRE-START-UP SAFETY REVIEW CHECKLIST

You have been assigned a Pre Start-Up Safety Review. This checklist is a guide to help ensure that all information necessary to evaluate the change is considered.

Passport No: 26131933
EWO No.:
MOC PSSR.: 10855.001

MOC Number 10855
Filing Reference
Person Responsible Arora, Madan
Completed By Parrish, Keith M.
Date Completed 7/25/2002

Project/Equipment Description:

P-332A case gasket leak

Subsystem:

Justification:

Are there any safety-related exceptions encountered during the PSSR that require follow-up after started up? ☐ Yes

Miscellaneous Comments:

Exception	Owner	Completed By	Completed On	Notified
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